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(54) Locating apparatus for in-car wireless telephones

(57) The apparatus a wireless telephone at a position in a car, permitting a user to communicate without holding the telephone so as to ensure safety whilst driving. The fixing apparatus includes a fixing device 2 having a vacuum sucking means 24, a connecting lever 3 and a wireless telephone seat member 4 connected with the fixing device 2 by the connecting lever 3. The wireless telephone seat member 4 is formed with a recess 41 for receiving the wireless telephone 6 and a magnet is disposed under the recess 41 for attracting the wireless telephone 6. The vacuum sucking means 24 is composed of at least one vacuum sucker 24 which is connected with an eccentric shaft rod. A pull switch 23 is pivotally connected with the eccentric shaft rod, whereby when the pull switch 23 is rotated, the eccentric shaft rod is displaced eccentrically, making the sucker 24 move forward or backward to create a vacuum condition between a sucking face of the sucker and a wind shield of a car and thus fix the fixing apparatus thereon.

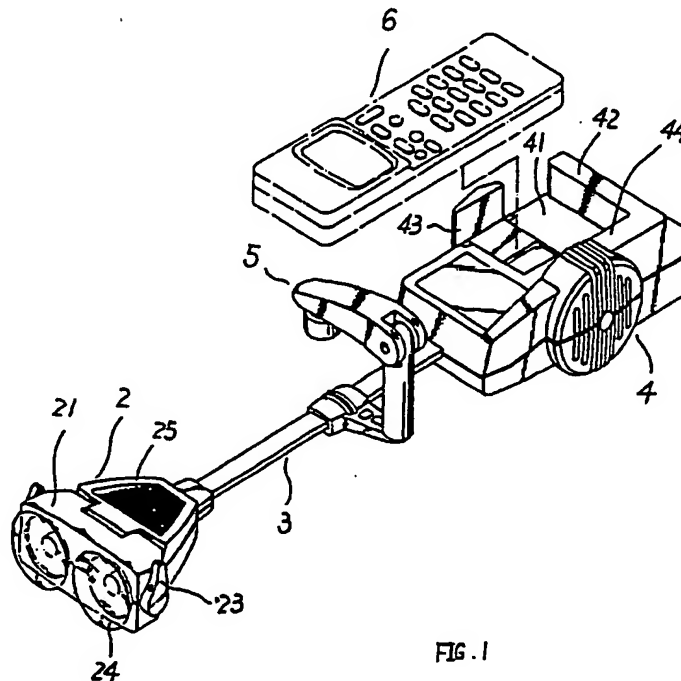


FIG. 1

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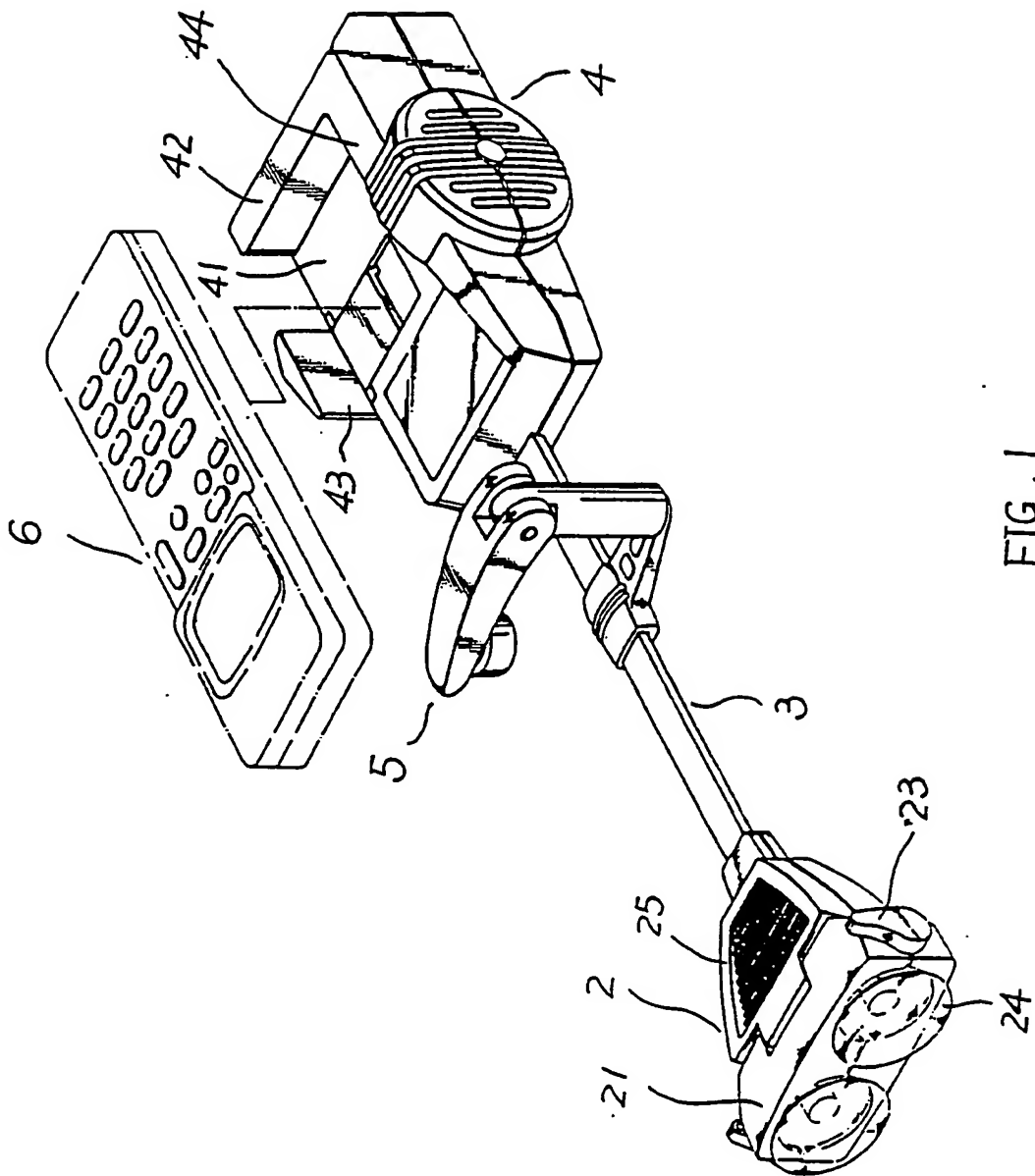


FIG. 1

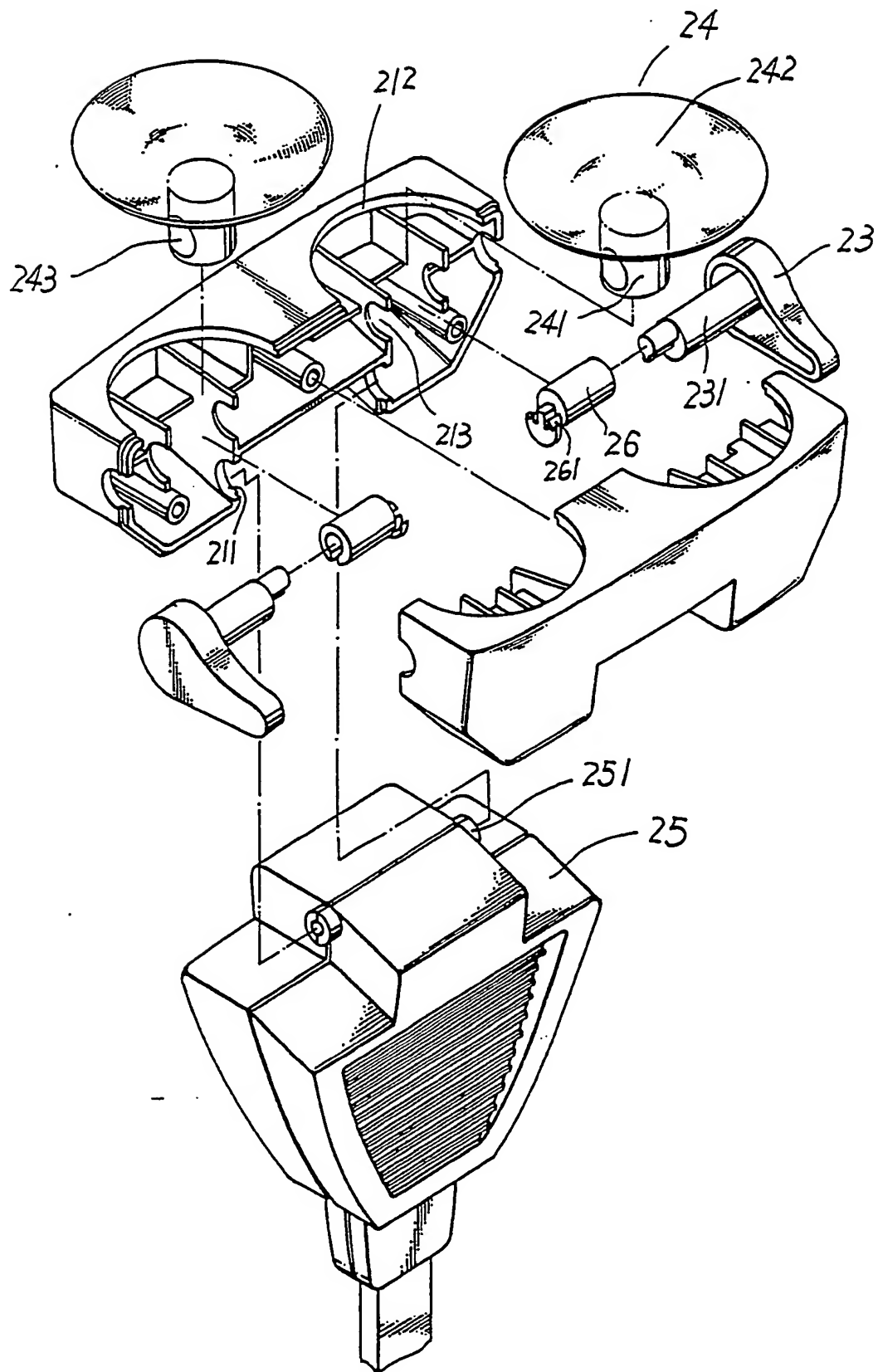


FIG. 2

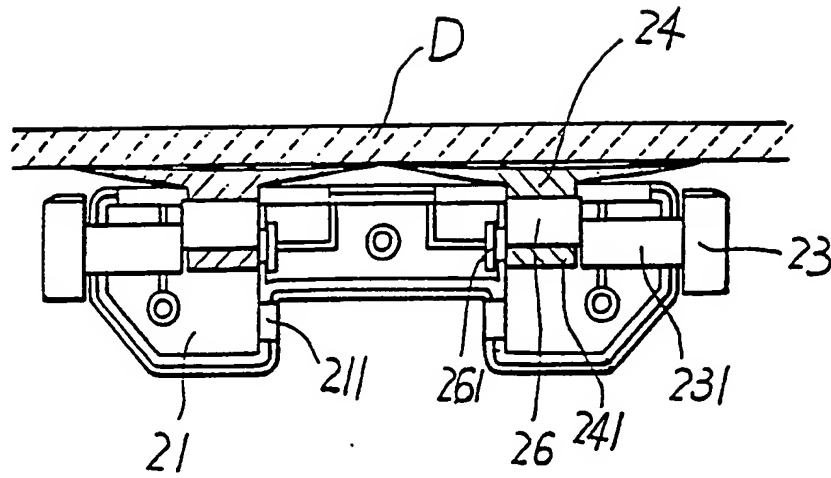


FIG. 3

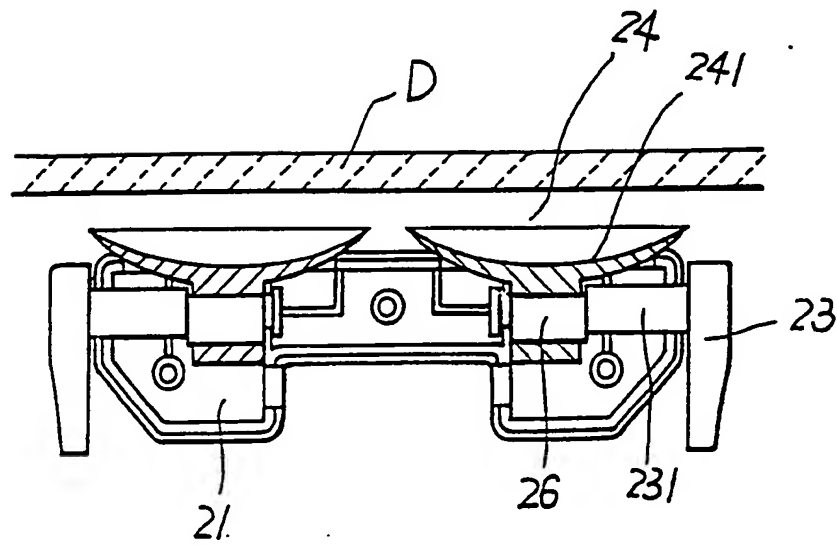


FIG. 4

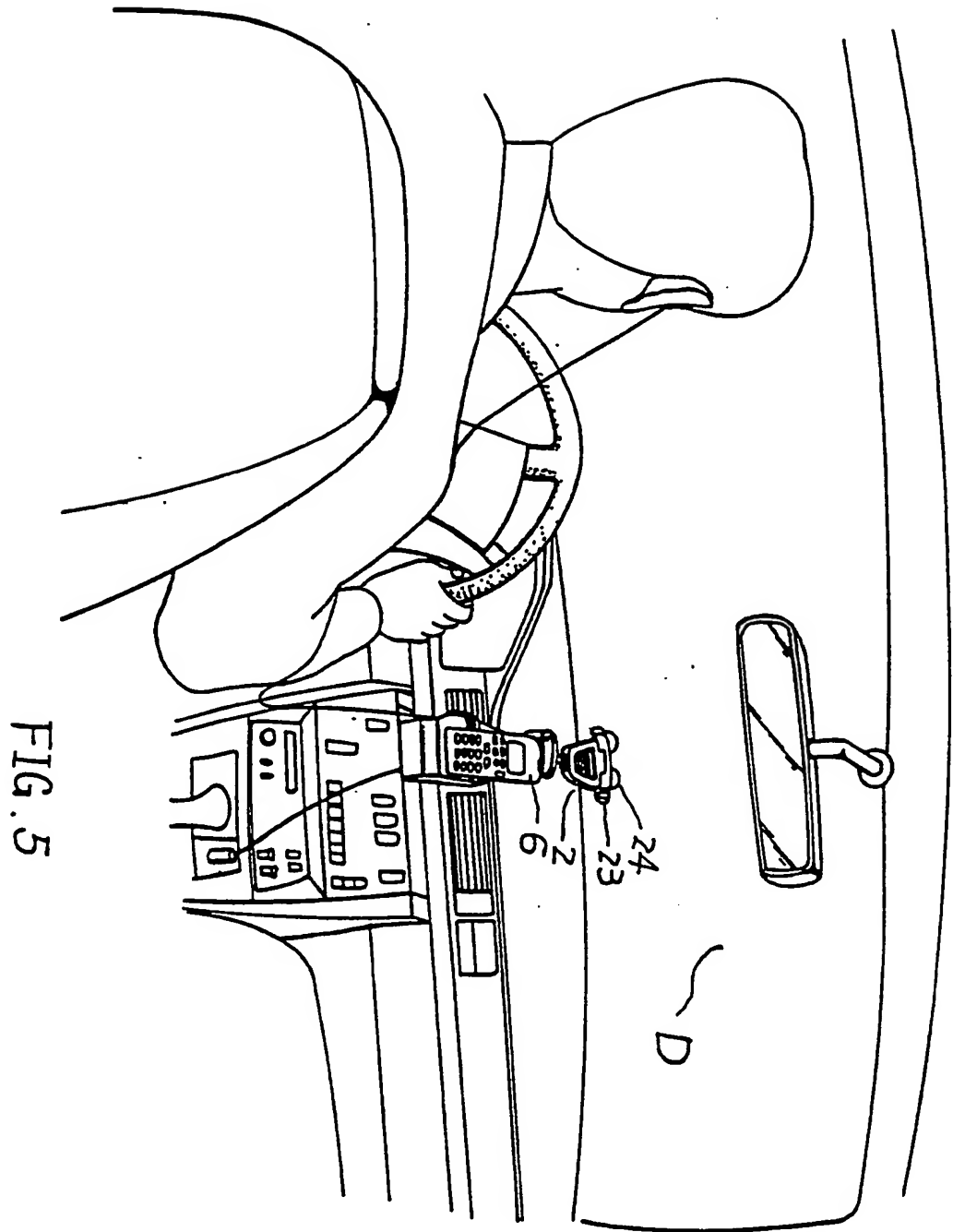


FIG. 5

LOCATING APPARATUS FOR IN-CAR WIRELESS TELEPHONES

The present invention relates to a locating apparatus for an in-car wireless telephone, and more particularly, to a locating apparatus which fixes a wireless telephone at a position in a car, permitting a user to communicate with others without holding the telephone so as to ensure safety during driving.

The wireless telephone is widely used nowadays. However, several shortcomings exist in such telephones as follows:-

1. When the wireless telephone is used in a car, the driver has to control the steering wheel with one hand and hold the telephone with the other hand. This is very dangerous and safety during driving cannot be ensured with such use of the wireless telephone.

2. The commercially available wireless telephone can be used in a car without holding the telephone by way of drilling a hole beside the shift lever or directly inserting the telephone in the cigarette lighter socket - such a telephone is depicted in Taiwan Design Patent Application No. 80307182. In such a manner, the telephone is

not firmly secured and the drilling can damage the car body. On the other hand, when the user communicates with others, the persons sitting in the same car can hear the voice of the user so that the communication cannot be kept confidential. In addition, some of such telephones are located at an undesirably low position. This restrains the driver from conveniently driving the car. Others are located on a mount above the instrument panel and more or less block the sight of the driver. This seriously affects driving safety.

3. Wireless telephones are designed in various models and sizes. Some wireless telephones with specific sizes must be fixed by means of a clamping device such as that disclosed in Taiwan Utility Model Application No. 80213132.

It is often the case that the telephone is damaged due to over-tightening or the telephone is loosely clamped and tends to slip and drop down. Moreover, each time the user takes up or puts down the telephone, the clamping device must be untightened or re-tightened. This is quite troublesome to the user.

Therefore, a locating apparatus which fixes the wireless telephone at a desirable position in a car, permitting a user to conveniently and safely use the telephone is required.

It is therefore considered advantageous in the present invention to provide a locating apparatus for an in-car wireless telephone, which fixes the wireless telephone at a position in a car, permitting a user to communicate with others without holding the telephone so as to ensure safety during driving. The locating apparatus includes a fixing device having a vacuum sucking means, a connecting lever and a wireless telephone seat member connected with the fixing device by the connecting lever.

The structural features and advantages of the present invention, and the technical means adopted to achieve the present invention can be best understood by reference to the following detailed description of a preferred embodiment with reference to the accompanying drawings, of which:

Fig. 1 is a perspective assembled view of the present invention;

Fig. 2 is a perspective disassembled view of the fixing device of the present invention;

Fig. 3 is a sectional assembled view of the fixing device in a sucking mode;

Fig. 4 is a sectional assembled view of the fixing device in an alternative mode; and

Fig. 5 shows how the present invention is located on a wind shield of a car.

A preferred embodiment of the present invention is shown in Fig. 1 and includes a fixing device 2, a connecting lever 3 and a wireless telephone seat member 4 for locating a wireless telephone 6 thereon, wherein the fixing device 2 is composed of a base member 25 and a pair of casings 21 associated with each other. The base member 25 has a pivot shaft 251 and the casings 21 define a lower shaft hole 211 receiving the pivot shaft 251 so that the angle of the casings 21 relative to the base member 25 can be adjusted. A pair of pull switches 23 each of which has a shaft section 231 are symmetrically disposed on two sides of the casings 21 and pivotably connected with a pair of eccentric shaft rods 26 by means of the shaft sections 231. A pair of vacuum suckers 24 each of which has a stem section 241 formed with a through hole 243 are connected with the eccentric shaft rods 26 by means of extending the eccentric shaft rods 26 through the through holes 243. Accordingly, when the pull switches 23 are rotated to drive the eccentric shaft rods 26, the same is displaced eccentrically, making the suckers 24 move forward

or backward through two openings 212 defined by the casings 21. When the fixing device 2 is to be located on the wind shield D of the car, a sucking face 242 of each sucker 24 is first opposed against the wind shield D and then the pull switches 23 are pulled downward, making the eccentric shaft rods 26 drive the suckers 24 to move slightly backward. As a result, a vacuum is obtained in the sucking faces 242 of the suckers 24 to create a vacuum sucking effect for fixing the fixing device on the wind shield D. Each eccentric shaft rod 26 has an engaging flange section 261 for closely abutting against an upper shaft hole 213 defined by the casings 21 to avoid sliding movement of the suckers 24 (as shown in Figs. 3, 4 and 5).

The connecting lever 3 has an upper end connected with the fixing device 2 and a lower end connected with the seat member 4. A pickup seat 5 is fitted on a lower portion of the connecting lever 3 adjacent to the seat member 4.

The seat member 4 is formed with a recess 41 on which the wireless telephone 6 is located. The seat member 4 further has a front edge 42, a right edge 44 and a movable push board 43 which confine the wireless telephone 6 in the seat member 4. A magnet is disposed under the recess 41 for attracting the wireless telephone 6. (The battery set used in the wireless telephone 6, such as nickel-hydrogen

battery, nickel-cadmium battery, etc. is installed in a back portion of the wireless telephone 6. The housing of such battery is made of magnetically attractable metal material. Therefore, when the wireless telephone 6 is placed in the recess 41, the magnet disposed thereunder can attract and secure the wireless telephone in the seat member 4.) Accordingly, the wireless telephone 6 can be easily and effectively secured in the seat member 4 while preventing a user from being clamped and injured and preventing the wireless telephone 6 from slipping and dropping. Moreover, the wireless telephone 6 can be conveniently picked up and placed down.

It is to be understood that the above description and drawings are only used for illustrating one embodiment of the present invention, not intended to limit the scope of the present invention. Any variation and derivation from the above description and drawings should be included in the scope of the present invention.

CLAIMS:

1. A locating apparatus for an in-car wireless telephone, comprising a fixing device, a connecting lever and a wireless telephone seat member connected to said fixing device by said connecting lever, wherein said apparatus further comprises vacuum sucking means located on the fixing device enabling the locating apparatus to be fixed to a surface of the car as required by the user.

2. A locating apparatus as claimed in Claim 1, wherein the angle of the vacuum sucking means with respect to the fixing device can be adjusted.

3. A locating apparatus as claimed in Claim 2, wherein the fixing device comprises a base member and the vacuum sucking means are located in a casing, the base member being pivotable with respect to the casing.

4. A locating apparatus as claimed in any preceding claim, wherein said wireless telephone seat member is formed with a recess for receiving the wireless telephone and has a front edge, a right edge and a movable push board which confine the wireless telephone in said recess, a magnet being disposed under said recess for attracting the wireless telephone.

5. A locating apparatus as claimed in any preceding claim, wherein said vacuum sucking means is composed of at least one vacuum sucker which has a stem section formed with a through hole, said sucker

being connected with an eccentric shaft rod by means of extending said eccentric shaft rod through said through hole, a pull switch being pivotably connected with said eccentric shaft rod, whereby when said pull switch is rotated, said eccentric shaft rod is displaced eccentrically, making said sucker move forward or backward to create a vacuum condition between a sucking face of said sucker and a windshield of a car and thus fix said locating apparatus thereon.

6. A locating apparatus for an in-car wireless telephone substantially as herein described and as illustrated in Figures 1 to 5.

**Examiner's report to the Comptroller under Section 17
(T Search report)**

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Relevant Technical Fields

(i) UK Cl (Ed.M) H4J (JL)

(ii) Int Cl (Ed.5) H04M 1/04, 1/11, 1/12; B60R 11/02

Search Examiner
P J EASTERFIELD

Date of completion of Search
11 FEBRUARY 1994

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

Documents considered relevant following a search in respect of Claims :-
1 TO 5

(ii) ONLINE DATABASES: WPI, CLAIMS

Categories of documents

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| <p>X: Document indicating lack of novelty or of inventive step.</p> <p>Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.</p> <p>A: Document indicating technological background and/or state of the art.</p> | <p>P: Document published on or after the declared priority date but before the filing date of the present application.</p> <p>E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.</p> <p>&: Member of the same patent family; corresponding document.</p> |
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Category	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2258786 A (WANG)	1,4,5

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).